

AMENDMENTS TO THE CLAIMS

The claims relating to the above-captioned patent application, as amended herein and with the status thereof, are as follows:

1. (currently amended) A slider for a disk drive, comprising:

5 a slider body that extends along a first reference axis that defines a longitudinal extent of said slider body, wherein said slider body comprises:

upper and lower surfaces, wherein said lower surface projects toward a storage medium of said disk drive when said slider is installed in said disk drive;

10 a leading edge and a trailing edge which is longitudinally spaced from said leading edge relative to said first reference axis, wherein said storage medium moves relative to said slider when incorporated in said disk drive in a direction that is at least generally from said leading edge of said slider body to said trailing edge of said slider body;

first and second sides that are laterally spaced relative to said first reference axis, wherein said lower surface of said slider body comprises:

15 a first air bearing pad;

a first air pressurizing step associated with said first air bearing pad and that is disposed immediately in front of said first air bearing pad in a direction of said leading edge, wherein an area bounded by said leading edge, said trailing edge, said first side, and said second side is of a first magnitude, wherein a surface area of said first air bearing pad is of a second magnitude, and
20 wherein a ratio of said second magnitude to said first magnitude is no more than about 0.004; and

a transducer disposed within said first air bearing pad.

2. (original) A slider, as claimed in Claim 1, wherein:

at least part of said first air bearing pad is disposed within about 0.002 inch of said trailing edge.

3. (original) A slider, as claimed in Claim 1, wherein:

said first air bearing pad is centrally disposed on said first reference axis.

4. (previously presented) A slider, as claimed in Claim 1, wherein:

said first air bearing pad has a surface area of no more than about 0.00001 in².

5. (original) A slider, as claimed in Claim 1, wherein:

a depth of said first pressurizing step is within a range of about 0.5 microinches to about 3

microinches.

6. (original) A slider, as claimed in Claim 1, wherein:

a depth of said first pressurizing step is about 1.5 microinches.

7. (currently amended) A slider, as claimed in Claim 1, further comprising:

a second air bearing pad, wherein said first air bearing pad is disposed on and protrudes from

said second air bearing pad; and

a second pressurizing step associated with said second air bearing pad and that is disposed immediately in front of said second air bearing pad in a direction of said leading edge.

8. (original) A slider, as claimed in Claim 7, wherein:

a depth of said second pressurizing step is different from a depth of said first pressurizing

step.

9. (original) A slider, as claimed in Claim 8, wherein:

said depth of said second pressurizing step is greater than said depth of said first pressurizing

step.

10. (original) A slider, as claimed in Claim 7, wherein:

a depth of said second pressurizing step is within a range of about 3 microinches to about 8 microinches, and wherein a depth of said first pressurizing step is within a range of about 0.5 microinches to about 3 microinches.

11. (original) A slider, as claimed in Claim 7, wherein:

a depth of said second pressurizing step is about five microinches and wherein a depth of said first pressurizing step is about 1.5 microinches.

12. (currently amended) A slider, as claimed in Claim 1, ~~wherein~~further comprising:

~~said first air bearing pad comprises means for generating~~ on said first air bearing pad at least about 15 percent of a total uplift force exerted on said slider body when used in said disk drive.

13. (currently amended) A slider, as claimed in Claim 1, ~~wherein~~further comprising:

~~said first air bearing pad comprises means for~~ pressurizing ~~concentrating a pressure on said~~ first air bearing pad to a level that is at least about 10 times greater than any other pressure exerted on any other portion of said lower surface of said slider body when used in said disk drive.

14. (currently amended) A slider, as claimed in Claim 1, ~~wherein~~further comprising:

~~said first air bearing pad comprises means for creating a pressure of at least about 400 psi on~~ said first air bearing pad when used in said disk drive.

15. (currently amended) A slider for a disk drive, comprising:

a slider body that extends along a first reference axis that defines a longitudinal extent of said slider body, wherein said slider body comprises:

upper and lower surfaces, wherein said lower surface projects toward a storage medium of said disk drive when said slider is installed in said disk drive;

a leading edge and a trailing edge which is longitudinally spaced from said leading edge relative to said first reference axis, wherein said storage medium moves relative to said slider when incorporated in said disk drive in a direction that is at least generally from said leading edge of said slider body to said trailing edge of said slider body;

first and second sides that are laterally spaced relative to said first reference axis, wherein said lower surface of said slider body comprises:

a first air bearing pad;

a first pressurizing step associated with said first air bearing pad and that is disposed immediately in front of said first air bearing pad in a direction of said leading edge;

a negative pressure suction cavity comprising a cavity base, wherein said cavity base is recessed a significant amount in relation to said first air bearing pad; and

a transducer disposed within said first air bearing pad, wherein a size of said first air bearing pad is selected such that at least a substantial portion of said first air bearing pad expands during read/write operations using said transducer and further such that said first air bearing pad generates at least about 15 percent of a total uplift force exerted on said slider body when said slider is used in said disk drive, wherein a pressure of at least about 400 psi is exerted on said first air bearing pad when said slider is used in said disk drive.

16. (original) A slider, as claimed in Claim 15, wherein:

an area bounded by said leading edge, said trailing edge, said first side, and said second side is of a first magnitude, wherein a surface area of said first air bearing pad is of a second magnitude, and wherein a ratio of said second magnitude to said first magnitude is no more than about 0.004.

17. (original) A slider, as claimed in Claim 15, wherein:
an entirety of said first air bearing pad is disposed within about 0.002 inch of said trailing
edge.

18. (original) A slider, as claimed in Claim 15, wherein:
5 said first air bearing pad is centrally disposed on said first reference axis.

19. (original) A slider, as claimed in Claim 15, wherein:
said first air bearing pad has a surface area of no more than about 0.00001 in².

20. (original) A slider, as claimed in Claim 15, wherein:
a depth of said first pressurizing step is within a range of about 0.5 microinches to about 3
10 microinches.

21. (original) A slider, as claimed in Claim 15, wherein:
a depth of said first pressurizing step is about 1.5 microinches.

22. (currently amended) A slider, as claimed in Claim 15, wherein said lower
surface further comprises:

15 a second air bearing pad, wherein said first air bearing pad is disposed on and protrudes from
said second air bearing pad; and

a second pressurizing step associated with said second air bearing pad and that is disposed
immediately in front of said second air bearing pad in a direction of said leading edge.

23. (original) A slider, as claimed in Claim 22, wherein:
20 a depth of said second pressurizing step is different from a depth of said first pressurizing
step.

24. (original) A slider, as claimed in Claim 23, wherein:

said depth of said second pressurizing step is greater than said depth of said first pressurizing step.

25. (original) A slider, as claimed in Claim 22, wherein:

5 a depth of said second pressurizing step is within a range of about 3 microinches to about 8 microinches, and wherein a depth of said first pressurizing step is within a range of about 0.5 microinches to about 3 microinches.

26. (currently amended) A slider, as claimed in Claim 23~~22~~, wherein:

10 a depth of said second pressurizing step is about five microinches and wherein a depth of said first pressurizing step is about 1.5 microinches.

27. (canceled)

28. (currently amended) A slider, as claimed in Claim 15, wherein further comprising:

15 ~~said first air bearing pad comprises means for~~ pressurizing ~~concentrating a pressure on said~~ first air bearing pad to a level that is at least about 10 times greater than any other pressure exerted on any other portion of said lower surface of said slider body when used in said disk drive.

29. (canceled)

30. (currently amended) A slider, as claimed in Claim 15, wherein said lower surface further comprises:

20 a ~~second~~third air bearing pad disposed at least generally toward said leading edge and a ~~second~~third pressurizing step associated with said ~~second~~third bearing pad and that is disposed immediately in front of said ~~second~~third air bearing pad in a direction of said leading edge;

31. (currently amended) A slider, as claimed in Claim 30, wherein:

at least part of said ~~second~~third air bearing pad is disposed within about 0.020 inch of said leading edge.

32. (currently amended) A slider, as claimed in Claim 15, wherein said lower

5 surface further comprises:

~~second~~fourth and ~~third~~fifth air bearing pads disposed at least generally toward said trailing edge, a ~~second~~fourth pressurizing step associated with said ~~second~~fourth air bearing pad and that is disposed immediately in front of said ~~second~~fourth air bearing pad in a direction of said leading edge, and a ~~third~~fifth pressurizing step associated with said ~~third~~fifth air bearing pad and that is
10 disposed immediately in front of said ~~third~~fifth air bearing pad in a direction of said leading edge.

33. (currently amended) A slider, as claimed in Claim 32, wherein:

at least part of each of said first air bearing pad and said ~~second~~fourth and ~~third~~fifth air bearing pads are disposed within about 0.002 inches of said trailing edge.

34. (currently amended) A slider, as claimed in Claim 32, wherein:

15 said first air bearing pad is disposed laterally between said ~~second~~fourth and ~~third~~fifth air bearing pads relative to said first reference axis.

35. (currently amended) A slider, as claimed in Claim 32, wherein:

said first air bearing pad is disposed closer to said trailing edge than each of said ~~second~~fourth and ~~third~~fifth air bearing pads.

20 36. (currently amended) A slider, as claimed in Claim 32, wherein:

a depth of each of said ~~second~~fourth and ~~third~~fifth pressurizing steps are of a first magnitude, and wherein a depth of said first pressurizing step is of a second magnitude that is different from said first magnitude.

37. (original) A slider, as claimed in Claim 36, wherein:

said first magnitude is within a range of about 3 microinches to about 8 microinches, and wherein said second magnitude is within a range of about 0.5 microinches to about 3 microinches.

38. (original) A slider, as claimed in Claim 36, wherein:

5 said first magnitude is about five microinches and wherein said second magnitude is about 1.5 microinches.

39. (original) A slider, as claimed in Claim 36, wherein:

said first magnitude is greater than said second magnitude.

40-47 (canceled)

10 48. (currently amended) A slider for a disk drive, comprising:

a slider body that extends along a first reference axis that defines a longitudinal extent of said slider body, wherein said slider body comprises:

upper and lower surfaces, wherein said lower surface projects toward a storage medium of said disk drive when said slider is installed in said disk drive;

15 a leading edge and a trailing edge which is longitudinally spaced from said leading edge relative to said first reference axis, wherein said storage medium moves relative to said slider when incorporated in said disk drive in a direction that is at least generally from said leading edge of said slider body to said trailing edge of said slider body;

first and second sides that are laterally spaced relative to said first reference axis,
20 wherein said lower surface of said slider body comprises:

a first air bearing pad having a surface area of no more than about 0.00001 in²,
wherein said first air bearing pad is sized so as to generate at least about 15 percent of a total uplift force exerted on said slider body when said slider is used in said disk drive, and wherein a pressure

of at least about 400 psi is exerted on said first air bearing pad when said slider is used in said disk drive;

a first air pressurizing step associated with said first air bearing pad and that is disposed immediately in front of said first air bearing pad in a direction of said leading edge; and

5 a transducer disposed within said first air bearing pad.

49. (previously presented) A slider, as claimed in Claim 48, wherein:

a depth of said first pressurizing step is within a range of about 0.5 microinches to about 3 microinches.

50. (currently amended) A slider, as claimed in Claim 48, further comprising:

10 a second air bearing pad, wherein said first air bearing pad is disposed on and protrudes from said second air bearing pad; and

a second pressurizing step associated with said second air bearing pad and that is disposed immediately in front of said second air bearing pad in a direction of said leading edge.

51. (previously presented) A slider, as claimed in Claim 50, wherein:

15 a depth of said second pressurizing step is different from a depth of said first pressurizing step.

52. (previously presented) A slider, as claimed in Claim 51, wherein:

a depth of said second pressurizing step is within a range of about 3 microinches to about 8 microinches, and wherein a depth of said first pressurizing step is within a range of about 0.5
20 microinches to about 3 microinches.

53. (canceled)

54. (currently amended) A slider, as claimed in Claim 1, wherein:

said first air bearing pad comprises means for ~~concentrating a pressure~~ pressurizing on said first air bearing pad to a level that is at least about 10 times greater than any other pressure exerted on any other portion of said lower surface of said slider body when used in said disk drive.

5 55. (canceled)

56. (new) A slider for a disk drive, comprising:

a slider body that extends along a first reference axis that defines a longitudinal extent of said slider body, wherein said slider body comprises:

upper and lower surfaces, wherein said lower surface projects toward a storage medium of said disk drive when said slider is installed in said disk drive;

a leading edge and a trailing edge which is longitudinally spaced from said leading edge relative to said first reference axis, wherein said storage medium moves relative to said slider when incorporated in said disk drive in a direction that is at least generally from said leading edge of said slider body to said trailing edge of said slider body;

15 first and second sides that are laterally spaced relative to said first reference axis, wherein said lower surface of said slider body comprises:

a first air bearing pad;

a first air pressurizing step associated with said first air bearing pad and that is disposed immediately in front of said first air bearing pad in a direction of said leading edge, wherein an area bounded by said leading edge, said trailing edge, said first side, and said second side is of a first magnitude, wherein a surface area of said first air bearing pad is of a second magnitude, wherein a ratio of said second magnitude to said first magnitude is no more than about 0.004, wherein said first air bearing pad is sized so as to generate at least about 15 percent of a total uplift force exerted

on said slider body when said slider is used in a disk drive, and wherein a pressure of at least about 400 psi is exerted on said first air bearing pad when said slider is used in said disk drive; and

a transducer disposed within said first air bearing pad.

57. (new) A slider, as claimed in Claim 56, wherein:

5 said first air bearing pad has a surface area of no more than about 0.00001 in².

58. (new) A slider, as claimed in Claim 56, further comprising:

a second air bearing pad, wherein said first air bearing pad is disposed on and protrudes from said second air bearing pad; and

a second pressurizing step associated with said second air bearing pad and that is disposed
10 immediately in front of said second air bearing pad in a direction of said leading edge.

59. (new) A slider, as claimed in Claim 58, wherein:

a depth of said second pressurizing step is different from a depth of said first pressurizing step.

60. (new) A slider, as claimed in Claim 59, wherein:

15 said depth of said second pressurizing step is greater than said depth of said first pressurizing step.

61. (new) A slider, as claimed in Claim 58, wherein:

a depth of said second pressurizing step is within a range of about 3 microinches to about 8 microinches, and wherein a depth of said first pressurizing step is within a range of about 0.5
20 microinches to about 3 microinches.

62. (new) A slider, as claimed in Claim 58, wherein:

a depth of said second pressurizing step is about five microinches and wherein a depth of said first pressurizing step is about 1.5 microinches.

63. (new) A slider, as claimed in Claim 56, further comprising:

means for pressurizing said first air bearing pad to a level that is at least about 10 times greater than any other pressure exerted on any other portion of said lower surface of said slider body when used in said disk drive.